

PREDICT-2 In-depth Behavioral Risk Investigations

The goals of USAID PREDICT-2 are to improve the characterization of biological, behavioral, and ecological risks to better understand which geographic locations, “epidemiological zones”, animal-animal and/or animal-human interfaces, and environmental factors are most associated with the evolution, spillover, amplification, and spread of zoonotic viruses with pandemic potential. This document is focused on the behavioral risk component of the PREDICT-2 project.

Critical elements of this work, and of USAID’s mission, include: building local capacity; evidence-based decision making; and, translating research into practice by leveraging science to inform the development of behavioral risk mitigation interventions that can improve health, save lives, and reduce costs associated with morbidity and mortality. The goal of the behavioral risk work is to use scientific results to inform the development of potential population or policy level intervention strategies that could reduce the spillover, amplification, and spread of novel viruses. The methods, topics, and locations for in-depth behavioral risk investigation are described in the sections that follow.

Research Methods. PREDICT-2 research is geographically focused on ‘hot spots’ (areas where a confluence of risk factors may contribute to disease emergence) and on high-risk sites within these hot spots. Within these sites, animals and humans are sampled concurrently. When humans are sampled, they complete a questionnaire which covers a number of pertinent topics including behaviors that can increase the risk of zoonotic virus transmission. To better characterize and prevent behaviors that can increase the risk of transmission, these quantitative questionnaire data are complemented with qualitative in-depth behavioral risk investigations (via ethnographic interviews, focus group discussions, and participant observation).

This ‘mixed method approach’ (triangulation of quantitative and qualitative data) is being used so that the quantitative questionnaire data can help explain the ‘who’, ‘what’, and ‘when’, and the qualitative data can help explain the ‘why’ and the ‘how’. This combination provides a more holistic understanding of country-specific contexts with increased validity.

Methods for analysis include content coding of qualitative data complemented by multivariate modeling of quantitative questionnaire data. These results will then be explored within the context of other PREDICT-2 One Health surveillance data, including: ecological data, laboratory results from wildlife and human biological surveillance, and results from analysis of temporal and geographic trends in broad-scale policy-level risk factors by the Modeling & Analytics team. Taken together, these will inform the development of structural interventions that are more appropriate, feasible, effective, and sustainable.

Topics for In-depth Investigation. Over the next 18-24 months, the PREDICT-2 team will conduct in-depth qualitative research on risk reduction intervention strategies relevant to targeted country-specific interfaces. In addition, given emergent trends from preliminary analysis of animal surveillance data, the team will hone in on the following topics in particular:

- Value Chains with a Focus on Large Markets
- Specific Bat-related Interfaces identified by PREDICT-2 In-country Work
 - Bat Guano Farming/Harvesting
 - Hunted Bats in the Value Chain including Bushmeat
 - Shared food resources
 - Bat-livestock interfaces
 - Ecotourism

Locations of In-depth Investigations. The maps below depict behavioral risk activities (quantitative questionnaire administration and in-depth qualitative investigations) that are currently being conducted (Figure 1) as well as those that are planned (Figure 2).

Figure 1. Current Behavioral Risk Activities (as of 3/31/17)

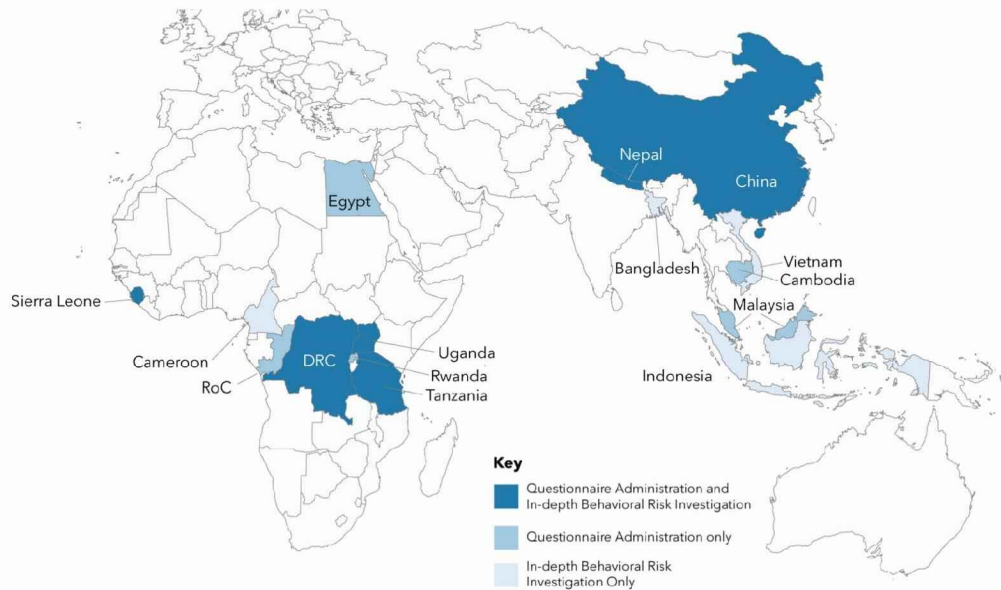
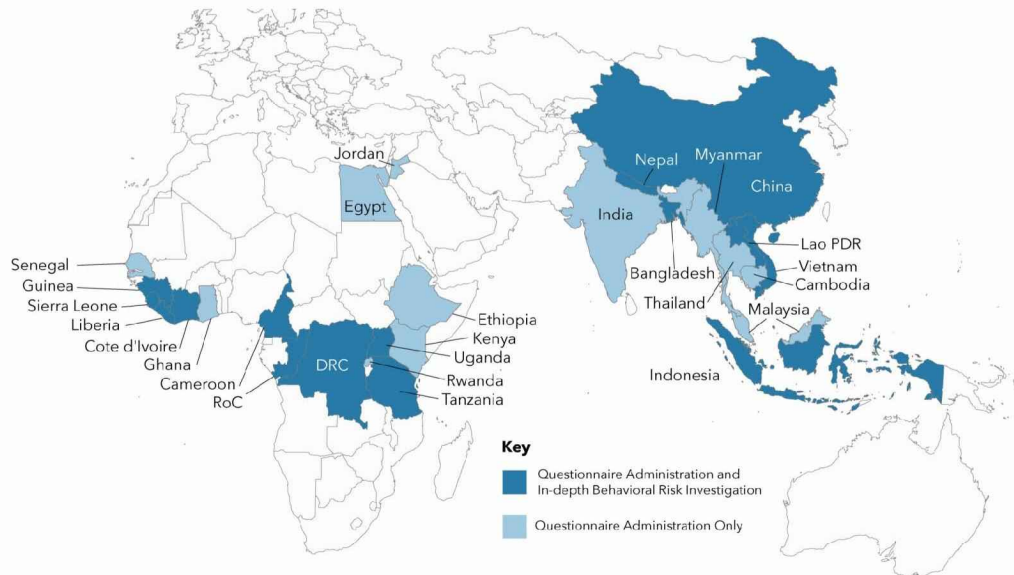


Figure 2. Planned Behavioral Risk Activities



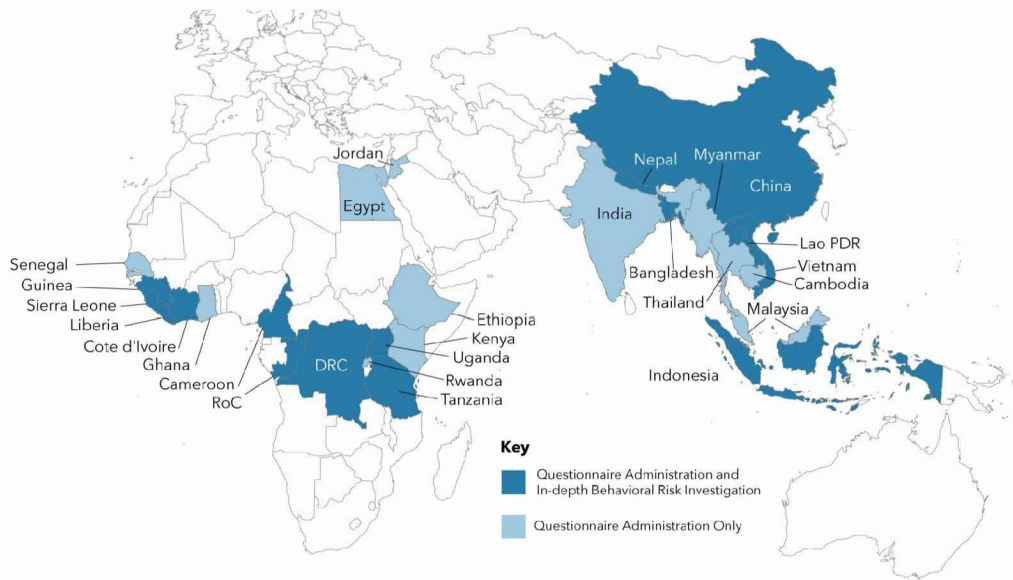
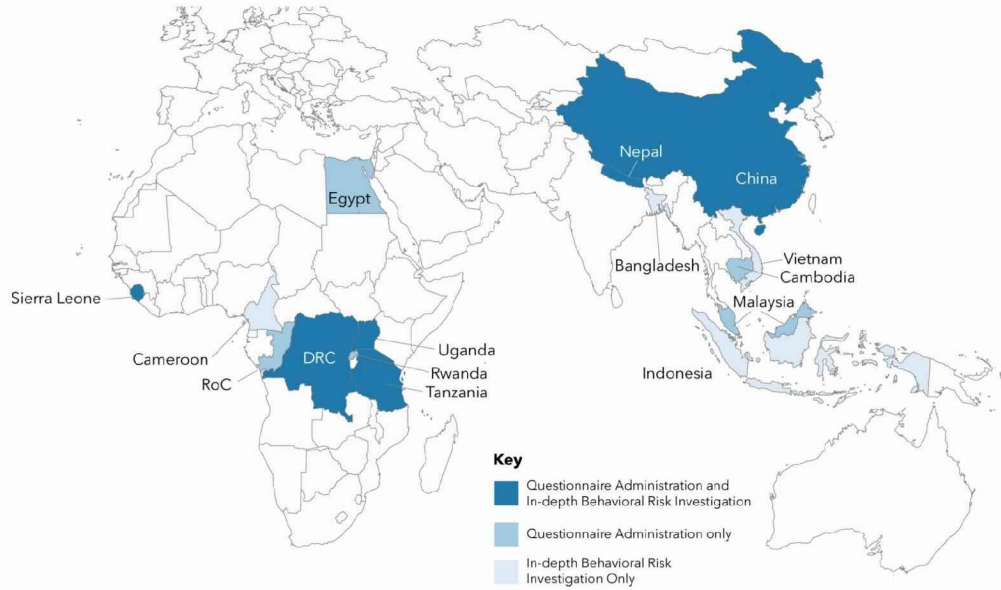


Figure 2. Planned Behavioral Risk Activities